§ 663.37 Post-delivery purchaser's requirements certification.

For purposes of this part, a post-delivery purchaser's requirements certification is a certification that the recipient keeps on file that—

(a) Except for procurements covered under paragraph (c) in this section, a resident inspector (other than an agent or employee of the manufacturer) was at the manufacturing site throughout the period of manufacture of the rolling stock to be purchased and monitored and completed a report on the manufacture of such rolling stock. Such a report, at a minimum, shall—

(1) Provide accurate records of all vehicle construction activities; and

(2) Address how the construction and operation of the vehicles fulfills the contract specifications.

(b) After reviewing the report required under paragraph (a) of this section, and visually inspecting and road testing the delivered vehicles, the vehicles meet the contract specifications.

(c) For procurements of:

(1) Ten or fewer buses; or

(2) Procurements of twenty vehicles or fewer serving rural (other than urbanized) areas, or urbanized areas of 200,000 people or fewer; or

(3) Any number of primary manufacturer standard production and unmodified vans, after visually inspecting and road testing the vehicles, the vehicles meet the contract specifications.

[56 FR 48395, Sept. 24, 1991, as amended at 71 FR 14118, Mar. 21, 2006]

§ 663.39 Post-delivery audit review.

(a) If a recipient cannot complete a post-delivery audit because the recipient or its agent cannot certify Buy America compliance or that the rolling stock meets the purchaser's requirements specified in the contract, the rolling stock may be rejected and final acceptance by the recipient will not be required. The recipient may exercise any legal rights it has under the contract or at law.

(b) This provision does not preclude the recipient and manufacturer from agreeing to a conditional acceptance of rolling stock pending manufacturer's correction of deviations within a reasonable period of time.

Subpart D—Certification of Compliance With or Inapplicability of Federal Motor Vehicle Safety Standards

§ 663.41 Certification of compliance with Federal motor vehicle safety standards.

If a vehicle purchased under this part is subject to the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in part 571 of this title, a recipient shall keep on file its certification that it received, both at the pre-award and post-delivery stage, a copy of the manufacturer's self-certification information that the vehicle complies with relevant Federal Motor Vehicle Safety Standards.

§ 663.43 Certification that Federal motor vehicle standards do not apply.

(a) Except for rolling stock subject to paragraph (b) of this section, if a vehicle purchased under this part is not subject to the Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in part 571 of this title, the recipient shall keep on file its certification that it received a statement to that effect from the manufacturer.

(b) This subpart shall not apply to rolling stock that is not a motor vehicle.

PART 665—BUS TESTING

Subpart A—General

Sec.

Subpart B—Bus Testing Procedures

Subpart C—Operations

AUTHORITY: 49 U.S.C. 5318 and 49 CFR 1.91.

SOURCE: 81 FR 50387, Aug. 1, 2016, unless otherwise noted.

Subpart A—General

§ 665.1 Purpose.

An applicant for Federal financial assistance for the purchase or lease of buses with funds obligated by the FTA shall certify to the FTA that any new bus model acquired with such assistance has been tested and has received a passing test score in accordance with this part. This part contains the information necessary for a recipient to ensure compliance with this provision.

§ 665.3 Scope.

This part shall apply to an entity receiving Federal financial assistance under 49 U.S.C. Chapter 53.

§ 665.5 Definitions.

As used in this part—

Administrator means the Administrator of the Federal Transit Administration or the Administrator's designee.

Automotive means that the bus is not continuously dependent on external power or guidance for normal operation. Intermittent use of external power shall not automatically exclude a bus of its automotive character or the testing requirement.

Bus means a rubber-tired automotive vehicle used for the provision of public transportation service by or for a recipient of FTA financial assistance.

Bus model means a bus design or variation of a bus design usually designated by the manufacturer by a specific name and/or model number.

Bus Testing Facility means the facility used by the entity selected by FTA to conduct the bus testing program, including test track facilities operated in connection with the program.

Bus Testing Report means the complete test report for a bus model, documenting the results of performing the complete set of bus tests on a bus model.

Curb weight means the weight of the bus including maximum fuel, oil, and coolant; but without passengers or driver.

Emissions means the components of the engine tailpipe exhaust that are regulated by the United States Environmental Protection Agency (EPA), plus carbon dioxide (CO2) and methane (CH4).

Emissions control system means the components on a bus whose primary purpose is to minimize regulated emissions before they exit the tailpipe. This definition does not include components that contribute to low emissions as a side effect of the manner in which they perform their primary function (e.g., fuel injectors or combustion chambers).

Final acceptance means the formal approval by the recipient that the vehicle has met all of its bid specifications and the recipient has received proper title.

Gross weight (Gross Vehicle Weight, or GVW) means the seated load weight of the bus plus 150 pounds of ballast for each standee passenger, up to and including, the maximum rated standee passenger capacity identified on the bus interior bulkhead.

Hybrid means a propulsion system that combines two power sources, at least one of which is capable of capturing, storing, and re-using energy.

Major change in chassis design means, for vehicles manufactured on a third-party chassis, a change in frame structure, material or configuration, or a change in chassis suspension type.

Major change in components means:

(1) For those vehicles that are not manufactured on a third-party chassis, a change in a vehicle's engine, axle, transmission, suspension, or steering components;

(2) For those that are manufactured on a third-party chassis, a change in the vehicle's chassis from one major design to another.

Major change in configuration means a change that is expected to have a significant impact on vehicle handling and stability or structural integrity.

Modified third-party chassis or van means a vehicle that is manufactured from an incomplete, partially assembled third-party chassis or van as provided by an OEM to a small bus manufacturer. This includes vehicles whose chassis structure has been modified to include: A tandem or tag axle; a drop or lowered floor; changes to the GVWR

from the OEM rating; or other modifications that are not made in strict conformance with the OEM's modifications guidelines where they exist.

New bus model means a bus model that—

(1) Has not been used in public transportation service in the United States before October 1, 1988; or

(2) Has been used in such service but which after September 30, 1988, is being produced with a major change in configuration or a major change in components.

Operator means the operator of the Bus Testing Facility.

Original equipment manufacturer (OEM) means the original manufacturer of a chassis or van supplied as a complete or incomplete vehicle to a bus manufacturer.

Parking brake means a system that prevents the bus from moving when parked by preventing the wheels from rotating.

Partial testing means the performance of only that subset of the complete set of bus tests in which significantly different data would reasonably be expected compared to the data obtained in previous full testing of the baseline bus model at the Bus Testing Facility.

Partial testing report, also *partial test report*, means a report documenting, for a previously-tested bus model that is produced with major changes, the results of performing only that subset of the complete set of bus tests in which significantly different data would reasonably be expected as a result of the changes made to the bus from the configuration documented in the original full Bus Testing Report. A partial testing report is not valid unless accompanied by the corresponding full Bus Testing Report for the corresponding baseline bus configuration.

Public transportation service means the operation of a vehicle that provides general or special service to the public on a regular and continuing basis consistent with 49 U.S.C. Chapter 53.

Recipient means an entity that receives funds under 49 U.S.C. Chapter 53, either directly from FTA or through a direct recipient.

Regenerative braking system means a system that decelerates a bus by recovering its kinetic energy for on-board storage and subsequent use.

Retarder means a system other than the service brakes that slows a bus by dissipating kinetic energy.

Seated load weight means the curb weight of the bus plus the seated passenger load simulated by adding 150 pounds of ballast to each seating position and 600 pounds per wheelchair position.

Service brake(s) means the primary system used by the driver during normal operation to reduce the speed of a moving bus and to allow the driver to bring the bus to a controlled stop and hold it there. Service brakes may be supplemented by retarders or by regenerative braking systems.

Small bus manufacturer means a secondary market assembler that acquires a chassis or van from an OEM for subsequent modification or assembly and sale as 5-year/150,000-mile or 4-year/100,000-mile minimum service life vehicle.

Tailpipe emissions means the exhaust constituents actually emitted to the atmosphere at the exit of the vehicle tailpipe or corresponding system.

Third party chassis means a commercially available chassis whose design, manufacturing, and quality control are performed by an entity independent of the bus manufacturer.

Unmodified mass-produced van means a van that is mass-produced, complete and fully assembled as provided by an OEM. This shall include vans with raised roofs, and/or wheelchair lifts, or ramps that are installed by the OEM or by a party other than the OEM provided that the installation of these components is completed in strict conformance with the OEM modification guidelines.

Unmodified third-party chassis means a third-party chassis that either has not been modified, or has been modified in strict conformance with the OEM's modification guidelines.

§ 665.7 Certification of compliance.

(a) In each application to FTA for the purchase or lease of any new bus model, or any bus model with a major change in configuration or components to be acquired or leased with funds obligated by the FTA, the recipient shall

certify that the bus was tested at the Bus Testing Facility and that the bus received a passing test score as required in this part. The recipient shall receive the appropriate full Bus Testing Report and any applicable partial testing report(s) before final acceptance of the first vehicle.

(b) In dealing with a bus manufacturer or dealer, the recipient shall be responsible for determining whether a vehicle to be acquired requires full testing or partial testing or has already satisfied the requirements of this part. A bus manufacturer or recipient may request guidance from FTA.

Subpart B—Bus Testing Procedures

§ 665.11 Testing requirements.

(a) In order to be tested at the Bus Testing Facility, a new model bus shall—

(1) Be a single model that complies with NHTSA requirements at 49 CFR part 565 *Vehicle Identification Number Requirements;* 49 CFR part 566 *Manufacturer Identification;* 49 CFR part 567 *Certification;* and where applicable, 49 CFR part 568 *Vehicle Manufactured in Two or More Stages—All Incomplete, Intermediate and Final-Stage Manufacturers of Vehicle Manufactured in Two or More Stages;*

(2) Have been produced by an entity whose Disadvantaged Business Enterprise DBE goals have been submitted to FTA pursuant to 49 CFR part 26;

(3) Identify the maximum rated quantity of standee passengers on the interior bulkhead in 2 inch tall or greater characters;

(4) Meet all applicable Federal Motor Vehicle Safety Standards, as defined by the National Highway Traffic Safety Administration in part 571 of this title; and

(5) Be substantially fabricated and assembled using the techniques, tooling, and materials that will be used in production of subsequent buses of that model with the manufacturing point of origin for the bus structure, the axles, the foundation brakes, the propulsion power system and auxiliary power systems (engine, transmission, traction batteries, electric motor(s), fuel cell(s)), and the primary energy storage and delivery systems (fuel tanks, fuel injectors & manifolds, and the fuel injection electronic control unit) identified in the test request submitted to FTA during the scheduling process.

(b) If the new bus model has not previously been tested at the Bus Testing Facility, then the new bus model shall undergo the full tests requirements for Maintainability, Reliability, Safety, Performance (including Braking Performance), Structural Integrity, Fuel Economy, Noise, and Emissions Tests.

(c) If the new bus model has not previously been tested at the Bus Testing Facility and is being produced on a third-party chassis that has been previously tested on another bus model at the Bus Testing Facility, then the new bus model may undergo partial testing in place of full testing.

(d) If the new bus model has previously been tested at the Bus Testing Facility, but is subsequently manufactured with a major change in chassis or components, then the new bus model may undergo partial testing in place of full testing.

(e) Buses shall be tested according to the service life requirements identified in the prevailing published version of FTA Circular 5010.

(f) Tests performed in a higher service life category (*i.e.*, longer service life) need not be repeated when the same bus model is used in lesser service life applications.

§ 665.13 Test report and manufacturer certification.

(a) The operator of the Bus Testing Facility shall implement the performance standards and scoring system set forth in this part.

(b) Upon completion of testing, the operator of the facility shall provide the scored test results and the resulting test report to the entity that submitted the bus for testing and to FTA. The test report will be available to recipients only after both the bus manufacturer and FTA have approved it for release. If the bus manufacturer declines to release the report, or if the bus did not achieve a passing test score, the vehicle will be ineligible for FTA financial assistance.

(c)(1) A manufacturer or dealer of a new bus model or a bus produced with

a major change in component or configuration shall provide a copy of the corresponding full Bus Testing Report and any applicable partial testing report(s) to a recipient during the point in the procurement process specified by the recipient, but in all cases before final acceptance of the first bus by the recipient.

(2) A manufacturer who releases a report under paragraph (c)(1) of this section also shall provide notice to the operator of the facility that the test results and the test report are to be made available to the public.

(d) If a tested bus model with a Bus Testing Report undergoes a subsequent major change in component or configuration, the manufacturer or dealer shall advise the recipient during the procurement process and shall include a description of the change. Any party may ask FTA for confirmation regarding the scope of the change.

(e) A Bus Testing Report shall be available publicly once the bus manufacturer makes it available during a recipient's procurement process. The operator of the facility shall have copies of all the publicly available reports available for distribution. The operator shall make the final test results from the approved report available electronically and accessible over the internet.

(f) The Bus Testing Report and the test results are the only official information and documentation that shall be made publicly available in connection with any bus model tested at the Bus Testing Facility.

Subpart C—Operations

§ 665.21 Scheduling.

(a) All requests for testing, including requests for full, partial, or repeat testing, shall be submitted to the FTA Bus Testing Program Manager for review prior to scheduling with the operator of the Bus Testing Facility. All test requests shall provide: A detailed description of the new bus model to be tested; the service life category of the bus; engineering level documentation characterizing all major changes to the bus model; and documentation that demonstrates satisfaction of each one of the testing requirements outlined in section 665.11(a).

(b) FTA will review the request, determine if the bus model is eligible for testing, and provide an initial response within five (5) business days. FTA will prepare a written response to the requester for use in scheduling the required testing.

(c) To schedule a bus for testing, a manufacturer shall contact the operator of the Bus Testing Facility and provide the FTA response to the test request. Contact information and procedures for scheduling testing are available on the operator's Bus Testing Web site, *http://www.altoonabustest.com.*

(d) Upon contacting the operator, the operator shall provide the manufacturer with the following:

(1) A draft contract for the testing;

(2) A fee schedule; and

(3) The test procedures for the tests that will be conducted on the vehicle.

(e) The operator shall process vehicles FTA has approved for testing in the order in which the contracts are signed.

§ 665.23 Fees.

(a) The operator shall charge fees in accordance with a schedule approved by FTA, which shall include different fees for partial testing.

(b) Fees shall be prorated for a vehicle withdrawn from the Bus Testing Facility before the completion of testing.

(c) The manufacturer's portion of the test fee shall be used first during the conduct of testing. The operator of the Bus Testing Facility shall obtain approval from FTA prior to continuing testing of each bus model at the Bus testing program's expense after the manufacturer's fee has been expended.

§ 665.25 Transportation of vehicle.

A manufacturer shall be responsible for transporting its vehicle to and from the Bus Testing Facility at the beginning and completion of the testing at the manufacturer's own risk and expense.

§ 665.27 Procedures during testing.

(a) Upon receipt of a bus approved for testing the operator of the Bus Testing Facility shall:

(1) Inspect the bus design configuration and compare it to the configuration documented in the test request;

(2) Determine if the bus, when loaded to Gross Weight, does not exceed its Gross Vehicle Weight Rating, Gross Axle Weight Ratings, or maximum tire load ratings;

(3) Determine if the bus is capable of negotiating the durability test track at curb weight, seated load weight, and Gross Vehicle Weight;

(4) Determine if the bus is capable of performing the Fuel Economy and Emissions Test duty cycles within the established standards for speed deviation.

(b) The operator shall present the results obtained from the activities of 665.27(a) and present them to the bus manufacturer and the FTA Bus Testing Program Manager for review prior to initiating testing using the Bus testing program funds. FTA will provide a written response within five (5) business days to authorize the start of testing or to request clarification for any discrepancies noted from the activities of 665.27(a). Testing can commence after five (5) business days if FTA does not provide a response.

(c) The operator shall perform all maintenance and repairs on the test vehicle, consistent with the manufacturer's specifications, unless the operator determines that the nature of the maintenance or repair is best performed by the manufacturer under the operator's supervision.

(d) The manufacturer shall be permitted to observe all tests. The manufacturer shall not provide maintenance or service unless requested to do so by the operator.

(e) The operator shall investigate each occurrence of unauthorized maintenance and repairs and determine the potential impact to the validity of the test results. Tests where the results could have been impacted must be repeated at the manufacturer's expense.

(f) The operator shall perform all modifications on the test vehicle, consistent with the manufacturer's specifications, unless the operator determines that the nature of the modification is best performed by the manufacturer under the operator's supervision. All vehicle modifications performed after the test has started will first require review and approval by FTA. If the modification is determined to be a major change, some or all of the tests already completed shall be repeated or extended at FTA's discretion.

(g) The operator shall halt testing after any occurrence of unapproved, unauthorized, or unsupervised test vehicle modifications. Following an occurrence of unapproved or unsupervised test vehicle modifications, the vehicle manufacturer shall submit a new test request to FTA that addresses all the requirements in 665.11 to reenter the Bus testing program.

(h) The operator shall perform eight categories of tests on new bus models. The eight tests and their corresponding performance standards are described in the following paragraphs.

(1) *Maintainability test.* The Maintainability test shall include bus servicing, preventive maintenance, inspection, and repair. It shall also include the removal and reinstallation of the engine and drive-train components that would be expected to require replacement during the bus's normal life cycle. Much of the maintainability data should be obtained during the Bus Durability Test. All servicing, preventive maintenance, and repair actions shall be recorded and reported. These actions shall be performed by test facility staff, although manufacturers shall be allowed to maintain a representative on-site during the testing. Test facility staff may require a manufacturer to provide vehicle servicing or repair under the supervision of the facility staff. Since the operator may not be familiar with the detailed design of all new bus models that are tested, tests to determine the time and skill required for removing and reinstalling an engine, a transmission, or other major propulsion system components may require advice from the bus manufacturer. All routine and corrective maintenance shall be carried out by the operator in accordance with the manufacturer's specifications.

(i) The Maintainability Test Report shall include the frequency, personnel hours, and replacement parts or supplies required for each action during the test. The accessibility of selected components and other observations

that could be important to a bus purchaser shall be included in the report.

(ii) The performance standard for Maintainability is that no greater than 125 hours of total unscheduled maintenance shall be accumulated over the execution of a full test.

(2) *Reliability test.* Reliability shall not be a separate test, but shall be addressed by recording all bus failures and breakdowns during all other testing. The detected bus failures, repair time, and the actions required to return the bus to operation shall be presented in the report. The performance standard for Reliability is that the vehicle under test experience no more than one uncorrected Class 1 failure and two uncorrected Class 2 failures over the execution of a full test. Class 1 failures are addressed in the Safety Test, below. An uncorrected Class 2 failure is a failure mode not addressed by a design or component modification that would cause a transit vehicle to be unable to complete its transit route and require towing or on-route repairs. A failure is considered corrected when a design or component modification is validated through sufficient remaining or additional reliability testing in which the failure does not reoccur.

(3) *Safety test.* The Safety Test shall consist of a Handling and Stability Test, a Braking Performance Test, and a review of the Class 1 reliability failures that occurred during the test. The Handling and Stability Test shall be an obstacle avoidance double-lane change test performed on a smooth and level test track. The lane change course will be set up using pylons to mark off two 12 foot center to center lanes with two 100 foot lane change areas 100 feet apart. Bus speed shall be held constant throughout a given test run. Individual test runs shall be made at increasing speeds up to a specified maximum or until the bus can no longer be operated safely over the course, whichever speed is lower. Both left- and right-hand lane changes shall be tested. The performance standard is that the test vehicle can safely negotiate and remain within the lane change test course at a speed of no less than 45 mph.

(i) The functionality and performance of the service, regenerative (if applicable), and parking brake systems shall be evaluated at the test track. The test bus shall be subjected to a series of brake stops from specified speeds on high, low, and split-friction surfaces. The parking brake shall be evaluated with the bus parked facing both up and down a steep grade. There are three performance standards for braking. The stopping distance from a speed of 45 mph on a high friction surface shall satisfy the bus stopping distance requirements of FMVSS 105 or 121 as applicable. The bus shall remain within a standard 12-foot lane width during split coefficient brake stops. The parking brake shall hold the test vehicle stationary on a 20 percent grade facing up and down the grade for a period of 5 minutes.

(ii) A review of all the Class 1 failures that occurred during the test shall be conducted as part of the Safety Test. Class 1 failures include those failures that, when they occur, could result in a loss of vehicle control; in serious injury to the driver, passengers, pedestrians, or other motorists; and in property damage or loss due to collision or fire. The performance standard is that at the completion of testing with no uncorrected Class 1 failure modes. A failure is considered corrected when a design or component modification is validated through sufficient remaining or additional Reliability Tests in which the failure does not reoccur over a number of miles equal to or greater than the additional failure up to 100% of the durability test mileage for the service life category of the tested bus.

(4) *Performance test.* The Performance Test shall measure the maximum acceleration, speed, and gradeability capability of the test vehicle. In determining the transit vehicle's maximum acceleration and speed, the bus shall be accelerated at full throttle from rest until it achieves its maximum speed on a level roadway. The performance standard for acceleration is that the maximum time that the test vehicle requires to achieve 30 mph is 18 seconds on a level grade. The gradeability test of the test vehicle shall be calculated based on the data measured on a level grade during the Acceleration Test. The performance standard for the gradeability test is that the test vehicle achieves a sustained speed of at

least 40 mph on a 2.5 percent grade and a sustained speed of at least 10 mph on a 10 percent grade.

(5) *Structural integrity tests.* Two complementary Structural Integrity Tests shall be performed. Structural Strength and Distortion Tests shall be performed at the Bus Testing Center, and the Structural Durability Test shall be performed at the test track.

(i) *Structural strength and distortion tests.* (1) The bus shall be loaded to GVW, with one wheel on top of a curb and then in a pothole. This test shall be repeated for all four wheels. The test verifies:

(i) Normal operation of the steering mechanism and;

(ii) Operability of all passenger doors, passenger escape mechanisms, windows, and service doors. A water leak test shall be conducted in each suspension travel condition. The performance standard shall be that all vehicle passenger exits remain operational throughout the test.

(2) Using a load-equalizing towing sling, a static tension load equal to 1.2 times the curb weight shall be applied to the bus towing fixtures (front and rear). The load shall be removed and the two eyes and adjoining structure inspected for damages or permanent deformations. The performance standard shall be that no permanent deformation is experienced at static loads up to 1.2 times the vehicle curb weight.

(3) The bus shall be towed at CW with a heavy wrecker truck for 5 miles at 20 mph and then inspected for structural damage or permanent deformation. The performance standard shall be that the vehicle is towable with a standard commercial vehicle wrecker without experiencing any permanent damage to the vehicle.

(4) With the bus at CW, probable damages and clearance issues due to tire deflating and hydraulic jacking shall be assessed. The performance standard shall be that the vehicle is capable of being lifted with a standard commercial vehicle hydraulic jack.

(5) With the bus at CW, possible damages or deformation associated with lifting the bus on a two post hoist system or supporting it on jack stands shall be assessed. The performance standard shall be that the vehicle is capable of being supported by jack stands rated for the vehicle's weight.

(i) *Structural durability test.* The Structural Durability Test shall be performed on the durability course at the test track, simulating twenty-five percent of the vehicle's normal service life. The bus structure shall be inspected regularly during the test, and the mileage and identification of any structural anomalies and failures shall be reported in the Reliability Test. There shall be two performance standards for the Durability Test, one to address the vehicle frame and body structure and one to address the bus propulsion system. The performance standard for the vehicle frame and body structure shall be that there are no uncorrected failure modes of the vehicle frame and body structure at the completion of the full vehicle test. The performance standard for the vehicle propulsion system is that there are no uncorrected powertrain failure modes at the completion of a full test.

(ii) [Reserved]

(6) *Fuel economy test.* The Fuel Economy Test shall be conducted using duty cycles that simulate a diverse range of transit service operating profiles. This test shall measure the fuel economy or fuel consumption of the vehicle and present the results in metrics that minimize the number of unit conversions for mass, volume, and energy.

(i) The Fuel Economy Test shall be designed only to enable FTA recipients to compare the relative fuel economy of buses operating at a consistent loading condition on the same set of typical transit driving cycles. The results of this test are not directly comparable to fuel economy estimates by other agencies, such as the National Highway Traffic Safety Administration (NHTSA) or U.S. Environmental Protection Agency (EPA) or for other purposes.

(ii) The performance standard for fuel economy shall be the prevailing model year fuel consumption standards for heavy-duty vocational vehicles outlined in the NHTSA's Medium and Heavy-Duty Fuel Efficiency Program (49 CFR part 535).

(7) *Noise test.* The Noise Test shall measure interior noise and vibration

while the bus is idling (or in a comparable operating mode) and driving over smooth and irregular road surfaces, and also shall measure the transmission of exterior noise to the interior while the bus is not running. The exterior noise shall be measured as the bus is operated past a stationary measurement instrument. There shall be two minimum noise performance standards: One to address the maximum interior noise during vehicle acceleration from a stop, and one to address the maximum exterior noise during vehicle acceleration from a stop. The performance standard for interior noise while the vehicle accelerates from 0–35 mph shall be no greater than 80 decibels A-weighted. The performance standard for exterior noise while the vehicle accelerates from 0–35 miles per hour shall be no greater than 83 decibels A-weighted.

(8) *Emissions test.* The Emissions Test shall measure tailpipe emissions of those exhaust constituents regulated by the United States EPA for transit bus emissions, plus carbon dioxide (CO_2) and methane (CH_4), as the bus is operated over specific repeatable transit vehicle driving cycles. The Emissions test shall be conducted using an emission testing laboratory equipped with a chassis dynamometer capable of both absorbing and applying power.

(i) The Emissions Test is not a certification test, and is designed only to enable FTA recipients to relatively compare the emissions of buses operating on the same set of typical transit driving cycles. The results of this test are not directly comparable to emissions measurements reported to other agencies, such as the EPA, or for other purposes.

(ii) The emissions performance standard shall be the prevailing EPA emissions requirements for heavy-duty vehicles outlined in 40 CFR part 86 and 40 CFR part 1037.

APPENDIX A TO PART 665—BUS MODEL SCORING SYSTEM AND THE PASS/FAIL STANDARD

1. BUS MODEL SCORING SYSTEM

The Bus Model Scoring System shall be used to score the test results using the performance standards in each category. A bus model that fails to meet a minimum performance standard shall be deemed to have failed the test and will not receive an aggregate score. For buses that have passed all the minimum performance standards, an aggregate score shall be generated and presented in each Bus Testing Report. A bus model that just satisfies the minimum baseline performance standard and does not exceed any of the standards shall receive a score of 60. The maximum score a bus model shall receive is 100. The minimum and maximum points available in each test category shall be as shown below in Table A. The Bus Testing report will include a scoring summary table that displays the resulting scores in each of the test categories and subcategories. The scoring summary table shall have a disclaimer footnote stating that the use of the scoring system is not mandatory, only that the bus being procured receive a passing score.

2. PASS/FAIL STANDARD

The passing standard shall be a score of 60. Bus models that fail to meet one or more of the minimum baseline performance standards will be ineligible to obtain an aggregate passing score.

TABLE A: Performance Standards, Scoring System, and Pass/Fail

Test Category		Performance Standard	All Performance Standards Met?		
			No	*Yes* → Assess Score	
				Base Score	+ Prorated Points for Measured Test Performance
Structural Integrity (30 pts.)	Distortion	All exits remain operational under each distortion loading condition		1.0	
	Static Towing	No significant deformation under 120% curb weight load		1.0	
	Dynamic Towing	Bus is towable with standard wrecker		1.0	
	Jacking	Bus is liftable with a standard jack		1.0	
	Hoisting	Bus stable on jacks		1.0	
	Durability	No uncorrected frame & body structure failures remaining at completion of test		13.0	
		No uncorrected powertrain failures remaining at completion of test		12.0	
Safety (20 pts.)	Hazards	No uncorrected Class 1 reliability failures remaining at test completion		10.0	
	Stability	Lane change speed no less than 45 mph		2.5	
	Braking	Stopping distance from 45 mph within 158 feet as per FMVSS 105 & FMVSS 121		0.5	Stopping distance from 45 mph (ft) 158 ◆——◆ 80 Points: 0.0 2.0
		Bus remains within lane during split coefficient brake stops		2.5	
		Parking brake holds on 20% grade		2.5	
Maintainability (16 pts.)		Accumulation of no more than 125 hours of unscheduled maintenance		2.0	Hours: 125 ◆——◆ 0 Points: 0.0 14.0
Reliability (8 pts.)		No more than 2 uncorrected Class 2 failures remaining at completion of test		2.0	Failures: 2 ◆——◆ 0 Points: 0.0 6.0

Fuel Economy (7 pts.) (Only 1 fuel type scored)	**Liquid Fuels** (Diesel, Gasoline, LPG, LNG)	**Compliant with 49 CFR part 535 MEDIUM- AND HEAVY-DUTY VEHICLE FUEL EFFICIENCY PROGRAM-** ***Heavy-Duty Vocational Vehicle Fuel Consumption Standards***		**1.0**	MPG: 1 13 Points: 0.0 6.0
	CNG				SCF/mi: 50 10 Points: 0.0 6.0
	Hydrogen				SCF/mi: 98 15 Points: 0.0 6.0
	Electric				kW-hr/mi: 3 1 Points: 0.0 6.0
Emissions (7 pts.) (All emissions categories scored)	**Carbon Dioxide (CO_2)**	**Compliant with all applicable EPA exhaust emissions regulations at date of manufacture including:** **40 CFR part 86 CONTROL OF EMISSIONS FROM NEW AND IN-USE HIGHWAY VEHICLES AND ENGINES** **40 CFR part 1037 CONTROL OF EMISSIONS FROM NEW HEAVY-DUTY MOTOR VEHICLES**		**1.0**	Grams/mi: 4000 0 Points: 0.0 4.0
	Carbon Monoxide (CO)				Grams/mi: 20 0 Points: 0.0 0.4
	Total Hydrocarbon (THC)				Grams/mi: 3 0 Points: 0.0 0.4
	Non-Methane Hydrocarbon (NMHC)				Grams/mi: 3 0 Points: 0.0 0.4
	Nitrogen Oxides (NOx)				Grams/mi: 2 0 Points: 0.0 0.4
	Particulate Matter (PM)				Grams/mi: 0.1 0 Points: 0.0 0.4
Noise (7 pts.)	**Interior - acceleration 0-35 mph**	**No greater than 80 decibels (dB(A))**		**0.5**	dB(A): 80 30 Points: 0.0 3.0
	Exterior - acceleration 0-35 mph	**No greater than 83 decibels (dB(A))**		**0.5**	dB(A): 83 50 Points: 0.0 3.0
Performance (5 pts.)	**Acceleration**	**Time from 0-30 mph no greater than 18 sec**		**1.5**	
	Gradeability	**Sustained speed on 2.5% grade no less than 40 mph**		**1.5**	
		Sustained speed on 10% grade no less than 10 mph		**2.0**	
Overall Result		**FAIL**		**60**	**+ 0 40**
		PASS			
Maximum Aggregate Score				**100**	

PARTS 666–669 [RESERVED]

PART 670—PUBLIC TRANSPORTATION SAFETY PROGRAM

Subpart A—General Provisions

Subpart B—Inspections, Investigations, Audits, Examinations, and Testing

Subpart C—Enforcement